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## NOTICE OF ALLOWANCE AND FEE(S) DUE

25944

7590

03/01/2010

OLIFF & BERRIDGE, PLC  
P.O. BOX 320850  
ALEXANDRIA, VA 22320-4850

EXAMINER

TURNER, KATHERINE ANN

ART UNIT

PAPER NUMBER

1795

DATE MAILED: 03/01/2010

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/586,334	07/14/2006	Hiroshi Suzuki	128766	1829

TITLE OF INVENTION: FUEL CELL DISASSEMBLY METHOD

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$300	\$0	\$1810	06/01/2010

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. **PROSECUTION ON THE MERITS IS CLOSED.** THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN **THREE MONTHS** FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. **THIS STATUTORY PERIOD CANNOT BE EXTENDED.** SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

## HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

**IMPORTANT REMINDER:** Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

# **PART B - FEE(S) TRANSMITTAL**

**Complete and send this form, together with applicable fee(s), to:** Mail **Mail Stop ISSUE FEE**  
**Commissioner for Patents**  
**P.O. Box 1450**  
**Alexandria, Virginia 22313-1450**  
**or Fax** **(571)-273-2885**

**INSTRUCTIONS:** This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

25944 7590 03/01/2010

**OLIFF & BERRIDGE, PLC**  
**P.O. BOX 320850**  
**ALEXANDRIA, VA 22320-4850**

## **Certificate of Mailing or Transmission**

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/586,334 07/14/2006 Hiroshi Suzuki 128766 1829

TITLE OF INVENTION: FUEL CELL DISASSEMBLY METHOD

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nonprovisional	NO	\$1510	\$300	\$0	\$1810	06/01/2010

EXAMINER	ART UNIT	CLASS-SUBCLASS
TURNER, KATHERINE ANN	1795	429-049000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.  
☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a **Customer Number is required.**

2. For printing on the patent front page, list

- (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, 1  
(2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2  
3

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee  
☐ Publication Fee (No small entity discount permitted)  
☐ Advance Order - # of Copies \_\_\_\_\_

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.  
☐ Payment by credit card. Form PTO-2038 is attached.  
☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number \_\_\_\_\_ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature \_\_\_\_\_ Date \_\_\_\_\_  
Typed or printed name \_\_\_\_\_ Registration No. \_\_\_\_\_

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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10/586,334	07/14/2006	Hiroshi Suzuki	128766	1829
25944	7590	03/01/2010	EXAMINER	
OLIFF & BERRIDGE, PLC P.O. BOX 320850 ALEXANDRIA, VA 22320-4850			TURNER, KATHERINE ANN	
			ART UNIT	PAPER NUMBER

1795

DATE MAILED: 03/01/2010

## Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 437 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 437 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

**Notice of Allowability****Application No.**

10/586,334

**Applicant(s)**

SUZUKI ET AL.

**Examiner**

Katherine Turner

**Art Unit**

1795

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment filed February 18, 2010.
2. ☒ The allowed claim(s) is/are 1,2,4-6 and 9-13.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some\* c) ☐ None of the:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.  
(a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached  
1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.  
(b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.  
Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

/K. T./  
Examiner, Art Unit 1795

## **DETAILED ACTION**

### ***Response to Amendment***

1. The amendment filed February 18, 2010 has been entered. Claims 1, 2, 4-6, and 9-13 are pending. Claims 1 and 13 are amended. Claims 3, 7-8, and 14-25 are cancelled.
2. The text of those sections of Title 35, U.S.C. code not included in this action can be found in the prior Office Action issued on March 3, 2009.

### ***Claim Objections***

3. The objections to claims 3, 7, and 8 are withdrawn, because claims 3, 7, and 8 have been cancelled.

### ***Claims Interpretation***

4. The means plus function limitations in claims 1-10 and 12-13 do not invoke 35 USC 112, sixth paragraph. Claims 1 and 13 recite, "external heating means to apply heat." Claims 1-6, 8, 10 and 12-13 recite, "external heating means." Claims 6-9 recite, "external force application means."

A claim limitation will be presumed to invoke 35 U.S.C. 112, sixth paragraph, if it meets the following 3-prong analysis:

- (A) the claim limitations must use the phrase "means for" or "step for;"
- (B) the "means for" or "step for" must be modified by functional language; and

- (C) the phrase "means for" or "step for" must not be modified by sufficient structure, material, or acts for achieving the specified function.

Claims 1-10 and 12-13 do not use the phrase "means for" or "step for;" and claim 7 is modified by "a wedge-like member" which is sufficient structure for achieving the specified function.

See MPEP 2181.

### ***Claim Rejections - 35 USC § 103***

5. The claim rejections under 35 U.S.C. 103(a) as being unpatentable over Maston et al. (US 2003/0186107) in view of Schmid et al. (US 6,080,503) and Tajima (US 2003/0121601) on claims 1-6 and 9-13 are withdrawn, because independent claims 1 and 13 have been amended, and claims 3, 7, and 8 have been cancelled.

### ***Double Patenting***

6. The provisional claim rejections on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-87 of copending Application No. 10/577,987 on claims 1-2, 6, and 11 are withdrawn, because independent claim 1 has been amended.

### ***Allowable Subject Matter***

7. Claims 1, 2, 4-6, and 9-13 are allowed. The following is an examiner's statement of reasons for allowance: the closest prior art of reference Maston et al. (US

2003/0186107), Schmid et al. (US 6,080,503), Face, Jr. et al. (US 6,030,480), and Tajima (US 2003/0121601), do not disclose or suggest the limitation of independent claim 1, "a fuel cell disassembly method of disassembling a fuel cell where a pair of separators arranged across an electrode assembly are bonded to each other via an adhesive layer, said fuel cell disassembly method comprising: a separation facilitating step of causing external heating means to apply heat to the adhesive layer, so as to soften or melt the adhesive layer and thereby facilitate separation of the pair of separators from each other; an external force application step of applying an external force by an external force application means in a direction of mutually parting the pair of separators, the external force application means in said separation facilitating step comprises a wedge-like member pressed in a direction of insertion into a gap between the pair of separators; and a heating step of heating the external force application means by the external heating means, wherein said separation facilitating step inserts the external force application means into the gap between the pair of separators, while the external force application means is heated by the external heating means."

The closest prior art of reference Maston et al. (US 2003/0186107), Schmid et al. (US 6,080,503), Face, Jr. et al. (US 6,030,480), and Tajima (US 2003/0121601), do not disclose or suggest the limitation of independent claim 13, "a fuel cell stack disassembly method of disassembling a fuel cell stack having an inter-cell adhesive layer that bonds adjoining fuel cells to each other directly or indirectly via an intermediate, said fuel cell stack disassembly method comprising: a separation facilitating step of causing external heating means to apply heat to the inter-cell adhesive layer, so as to soften or melt the

inter-cell adhesive layer and thereby facilitate separation of the adjoining fuel cells; an external force application step of applying an external force by an external force application means in a direction of mutually parting the pair of separators, the external force application means in said separation facilitating step comprises a wedge-like member pressed in a direction of insertion into a gap between the pair of separators; and a heating step of heating the external force application means by the external heating means, wherein said separation facilitating step inserts the external force application means into the gap between the pair of separators, while the external force application means is heated by the external heating means.”

Maston et al. a fuel cell stack disassembly method comprising a separation facilitation step of heating the adhesive layer at 90 to 130 °C, so as to melt the adhesive layer and thereby facilitate separation of the fuel cell components (figures 1-8; paragraphs 70, 90, 91 and 99), but does not disclose or suggest a wedge-like member which is heated by the external heating means.

Schmid et al. teaches a fuel cell stack where a pair of separator plates (11 and 12) bonded to each other via an adhesive and the desire for easier stack disassembly to remove and repair individual cells (figures, 2, 3a-3d, 4a-4c, and 5b; column 3, lines 1-24 and 53-61; column 5, lines 1-64; column 6, lines 22-58), but does not disclose or suggest a wedge-like member which is heated by the external heating means.

Face, Jr. et al. teaches a stacked assembly with thermoplastic adhesive layers (16, 20 and 24) between two press members (10 and 12) which are shaped to accommodate the stack and heating the layers with second press member (10) that is



heated by resistance heating element (38) to a controlled temperature that melts the adhesive but does not exceed the Curie temperature of other layers in the stack (figures 3a-8; column 4, lines 31-67; column 5, lines 1-33; column 6, lines 1-30; column 7, lines 36-67; column 8, lines 1-40), but does not disclose or suggest a wedge-like member which is heated by the external heating means.

Tajima teaches the separation facilitating step causes the cutting arm (14) (Applicant's external heating means), which guides and supplies the heating current, applying heat to the adhesive layer by heating the cutting blade of the cutting unit (12) (Applicant's external force application means), while the external force is applied by the cutting blade of the cutting unit (12) (Applicant's external force application means) in a direction of separating the two layers (Applicant's mutually parting) (Tajima figure 1; paragraphs 27-40, 51-52, 88-89, 94 and 98), but does not disclose or suggest the cutting unit (12) (Applicant's external force application means) comprising a wedge-like member which is heated by the external heating means.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Correspondence/Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Katherine Turner whose telephone number is (571)270-5314. The examiner can normally be reached on Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dah-Wei Yuan can be reached on (571)272-1295. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/K. T./  
Examiner, Art Unit 1795

/Dah-Wei D. Yuan/  
Supervisory Patent Examiner, Art Unit 1795